

INVITATION FOR BIDS (IFB) NO. 97-107
TO
FURNISH AND DELIVER
NETWORK AND CABLE TESTING EQUIPMENT
ON A REQUIREMENTS BASIS
FOR
INFORMATION TECHNOLOGY SERVICES
UNIVERSITY OF HAWAII
HONOLULU, HAWAII

MAY, 1997

BOARD OF REGENTS
UNIVERSITY OF HAWAII
HONOLULU, HAWAII

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IT IS THE RESPONSIBILITY OF ALL BIDDERS TO CHECK THE TABLE OF CONTENTS TO CONFIRM THAT ALL PAGES LISTED THEREIN ARE CONTAINED IN THEIR BID PACKAGE.

BIDDER'S REMINDER:

1. Bid pages 1 - 5, Signature page must have an authorized original signature; Evidence of Authority should be attached.
2. TWO (2) sets of Manufacturer's literature (see Special Provisions).
3. Tax Clearance Certificate or OPRM Form 128, CERTIFICATION FOR TAX CLEARANCE, (see Special Provisions).

NOTICE TO BIDDERS

BID FORMS for IFB No. 97-107, Network and Cable Testing Equipment, will be available from and received in the OFFICE OF PROCUREMENT, PROPERTY AND RISK MANAGEMENT, UNIVERSITY OF HAWAII, 1400 LOWER CAMPUS ROAD, ROOM 15, HONOLULU, HAWAII 96822, (an unofficial copy of the IFB is available on the Internet at <http://www.state.hi.us/bids/notice01.htm>) and must be submitted no later than 2:30 p.m., June 4, 1997, and at that time will be publicly opened.

Bids received after the time and date fixed for opening will not be considered.

Vendors located outside the Island of Oahu, Hawaii, USA, may request an official copy of the IFB by providing the vendor's name, address, contact person, telephone number, facsimile number, and an account number, billable to the receiver, for express shipment. Requests may be submitted via facsimile, (808) 956-2093. Direct all questions to Suzanne Tanaka, (808) 956-9485.

Kenneth P. Mortimer
President, University of
Hawaii and Chancellor,
University of Hawaii at Manoa

Advertised: Honolulu Advertiser
Issue of: May 21, 1997

NOTICE TO BIDDERS

OPPRM FORM 115

BUSINESS CLASSIFICATION CERTIFICATION STATEMENT

(See Official Document)

BID FORM
TO
FURNISH AND DELIVER
NETWORK AND CABLE TESTING EQUIPMENT
ON A REQUIREMENTS BASIS

Office of Procurement, Property
and Risk Management
University of Hawaii
1400 Lower Campus Road, Room 15
Honolulu, Hawaii 96822

To Whom It May Concern:

The undersigned has carefully examined the INVITATION FOR BIDS (IFB) NO. 97-107, TO FURNISH AND DELIVER NETWORK AND CABLE TESTING EQUIPMENT ON A REQUIREMENTS BASIS FOR INFORMATION TECHNOLOGY SERVICES, UNIVERSITY OF HAWAII, HONOLULU, HAWAII, and offers to furnish and deliver the equipment to the address stated on the purchase order, in strict accordance with the true intent and meaning of the Invitation for Bids (IFB) and shall complete delivery within FOURTEEN (14) consecutive calendar days after receipt of purchase order, as follows:

BASIC BID

<u>Item</u>	<u>Description</u>	<u>Est. Qty.</u>	<u>Unit Price</u>	<u>Total Amount</u>
1.	Handheld Ethernet Network Analyzer, Fluke Enterprise LANMeter 682 or acceptable alternate, as per Technical Specifications Manufacturer and Model No. Offered _____	4	\$_____	\$_____
2.	LAN Switch-capable Software Upgrade, Fluke Enterprise LANMeter SwitchWizard Option or acceptable alternate, as per Technical Specifications Manufacturer and Model No. Offered _____	1		\$_____

<u>Item</u>	<u>Description</u>	<u>Est. Qty.</u>	<u>Unit Price</u>	<u>Total Amount</u>
3.	Category 5 Cable Tester, Fluke Enterprise DSP-100/SR or acceptable alternate, as per Technical Specifications Manufacturer and Model No. Offered _____	1		\$_____
4.	Fiber Optic Test Kit Option, Fluke Enterprise DSP-FTK or acceptable alternate, as per Technical Specifications Manufacturer and Model No. Offered _____	1		\$_____
5.	Handheld Ethernet Installation and Troubleshooting Tool, Fluke OneTouch 10/100 or acceptable alternate, as per Technical Specifications Manufacturer and Model No. Offered _____	2	\$_____	\$_____
6.	One-Year Extended Warranty for Item 1, as per Technical Specifications	4	\$_____	\$_____
7.	One-Year Full Service Agreement for Item 3, as per Technical Specifications	1		\$_____
8.	One-Year Full Service Agreement for Item 5, as per Technical Specifications	2	\$_____	\$_____

TOTAL AGGREGATE BID FOR ITEM NOS. 1 TO 8: \$_____

Prices shall be f.o.b. destination and shall include all applicable taxes.

BIDDERS MUST BID ON ALL ITEMS IN ORDER TO BE CONSIDERED FOR AWARD.

TAX LIABILITY

Both out-of-state and Hawaii bidders are advised that the amount bid on this solicitation is subject to the general excise tax (currently 4%) imposed by Chapter 237, Hawaii Revised Statutes (HRS) and, if tangible property is being imported into the State of Hawaii for resale, the use tax (currently 1/2%) imposed by Chapter 238, HRS. (Refer to Tax Clearance in the Special Provisions and Taxes in the General Provisions.) Bidders are therefore cautioned to consider such taxes in formulating their bids since no adjustments to the prices bid shall be allowed.

BASIS FOR AWARD

Bidders are advised that the award of this contract is contingent upon availability of funds. If funds are unavailable, the University reserves the right not to make award of this contract.

The award of contract, if awarded, shall be made to the lowest responsive and responsible bidder on the **TOTAL AGGREGATE BID FOR ITEM NOS. 1 TO 8.**

NOTE TO BIDDERS

An acceptable bid must conform in all material respects to this Invitation for Bids. Any of the following may be grounds for disqualification:

1. Taking exception to any of the specifications, terms or conditions contained in the IFB.
2. Placing conditions on the furnishing of solicited goods or services.
3. Inclusion of a quotation or order form containing additional specifications, terms or conditions.
4. Referencing external documents containing additional specifications, terms or conditions.

Bidders are advised that bids are evaluated as submitted and requests by bidders to delete conditions contained in their bids after bid opening cannot be considered.

REMITTANCE ADDRESS

In the event that the undersigned is awarded this contract and its remittance address differs from the address shown on the next page, please indicate remittance address below:

Street Address or P. O. Box

City State Zip Code

SIGNATURE PAGE
(See Official Document)

CERTIFICATION FOR TAX CLEARANCE

RE: IFB No.: _____

Project/Title: _____

I certify that I have submitted a State and IRS tax clearance application (DOTAX Form A-6) by mail on _____,

(date)

and have not received an original or certified copy at the time I submitted this offer.

Upon receipt of a tax clearance, I will immediately send an original or certified copy by mail to:

Office of Procurement, Property
and Risk Management
University of Hawaii
1400 Lower Campus Road, Room 15
Honolulu, Hawaii 96822

Signature (Original): _____

Printed Name: _____

Title: _____

Company Name: _____

Date: _____

TECHNICAL SPECIFICATIONS

This section indicates the Technical Specifications for the equipment required. The Technical Specifications listed herein are the minimum requirements and are mandatory for an accepted bid.

Item 1: Handheld Ethernet Network Analyzer, Fluke Enterprise LANMeter 682 or acceptable alternate, each with the following specifications:

- a. SNMP-based troubleshooting capabilities (including MIB I, II, and RMON queries).
- b. In-depth protocol support for TCP/IP, Novell NetWare, Windows NT, Windows for Workgroups, Windows 95, and OS/2.
- c. Backlit LCD screen and status LED indicators for % Utilization, Frame Error, Collision, Polarity, Link Active, and Transmit
- d. Flash ROM for quick and easy software updates from a PC.
- e. Hub connector (RJ-45), NIC connector (RJ-45), and BNC connector.
- f. RS-232C DB-9 Serial Communications Port.
- g. Support for HP LaserJet, ThinkJet, and EPSON printers.
- h. Case, Battery Pack and AC adapter/charger, Remote wire map/cable identifier unit, Software Utility disk, and User Manual.
- i. Capability to perform testing to meet EIA 568A, TSB-67 requirements for Level I test of Basic Link or Channel configurations using an optional 100MHz test kit.
- j. Capability to view LAN switch, Fast Ethernet, and FDDI Interface information and statistics with optional upgrade.
- k. Setup:
 - 1) Network Configuration - Shall allow changing of analyzer MAC address and selection between 10BASE-T and BNC connections as the active port.
 - 2) Station List - Shall allow the user to create or modify a list of up to 512 station addresses, and to establish a symbolic name for MAC, IP, and IPX

addresses, with multiple station lists supporting up to 4,096 stations. Lists may be imported from or exported to a PC for off-line storage and manipulation.

- 3) System Information - Shall allow the user to view the software revision level and default MAC address.
- 4) Self-Test

1. Ethernet:

- 1) Network Statistics - Shall monitor the general health of a network by calculating statistics for Utilization, Collisions, Errors, and Broadcasts as average, maximum, and total values in numeric and bar graph formats.
- 2) Error Statistics - Jabbers, Bad FCS, Short Frames, Late Collisions, Remote Collisions, Local Collisions, and Energy (Ghosts).
- 3) Collision Analysis - Shall display all collisions, including preamble collisions and energy (ghosts) on the cable that would prevent stations from transmitting.
- 4) Protocol Mix - Shall display a percentage-ranked listing of the top protocols measured by frame count on the local segment, including automatic identification of encapsulation types for IPX. The list of all protocols and stations recorded for each protocol shall be capable of being printed or viewed.
- 5) Top Senders - Shall monitor the busiest transmitting nodes on the local network, including the capability to filter on a single address and show the top senders to a particular station. A list of all stations recorded as transmitting during the test period shall be capable of being printed or viewed.
- 6) Top Receivers - Shall monitor the busiest receiving nodes on the network.
- 7) Top Broadcasters - Shall monitor the type and source of broadcasts, distinguishing between broadcast, multicast, and non-broadcast frames. A list of all stations transmitting broadcast frames shall be capable of being printed or viewed.

- 8) Traffic Generation - The traffic generator must be able to run concurrently with Network Statistics, Error Statistics, and Collision Analysis. User-selectable parameters must include frames-per-second of added traffic and frame size, including the ability to change the current frame rate and size on-the-fly using cursor keys. To test bridges and routers, IP and IPX headers must be built automatically once the source and destination address are supplied.

m. TCP/IP:

- 1) IP Auto Configuration - Shall search for a usable IP source address, the correct subnet mask, a default IP router, and any available DNS server.
- 2) Segment Discovery - Shall automatically identify problems such as incorrect subnet masks, duplicate IP addresses and advertised services not available. Also searches for IP Routers, Subnet information, DHCP and BOOTP servers, Name Servers, SNMP Agents and Local Hosts.
- 3) Scan Host - Shall verify host IP configuration by reporting the MAC address, the subnet mask, and the IP address of a usable default router. If a DNS server is configured, the host name is also reported. Shall monitor the IP traffic to and from the host, and also shall verify connectivity by pinging the device.
- 4) Path Discovery - Shall perform a Trace Route function and shall return the IP address of each router and response time.
- 5) Route Table Query - Shall verify routing tables.
- 6) Interface Statistics and Error Reporting
- 7) DNS Server Query - Using either an IP address or a name.
- 8) Ping Tests - To validate connectivity to a host.
- 9) RMON Statistics Studies - To obtain information on remote segments.

- 10) ICMP Monitor - Frame types monitored shall include:
 - a) Destination Unreachable
 - b) Redirect
 - c) Source Quench
 - d) Time Exceeded
 - e) Parameter Problem
- 11) ICMP Ping - Shall display the resulting IP address, MAC address, number of responses, and response time.
- 12) Top IP Senders - Shall monitor the busiest transmitting IP nodes on the local segment, including the capability to filter on a single address and show the top senders to a particular station.
- 13) Top IP Receivers - Shall monitor the busiest receiving nodes on the local segment.
- 14) Trace Route - Shall report each router encountered while sending an IP packet to a specified destination host. Shall show when multiple routes are being used, the route a packet is taking, whether it reached the destination, and the last router that forwarded the packet in situations where it does not arrive at the destination. Configurable parameters shall include:
 - a) Source and destination IP address
 - b) Default router/gateway address
 - c) DNS server address
 - d) Maximum TTL value

n. NetBIOS:

- 1) IP Auto Configuration
- 2) Segment Discovery - Shall automatically identify problems such as duplicate names, registration errors, and default router not responding to ARP.
- 3) NetBIOS Ping - Shall test network layer connectivity by pinging a node by name.
- 4) Top NetBIOS Senders - Shall monitor the busiest transmitting NetBIOS nodes on the local segment, including the capability to filter on a single address and show the top senders to a particular station. Test results should show source address, encapsulation protocol, and percent of NetBIOS traffic.

- 5) Top NetBIOS Receivers - Monitors the busiest receiving NetBIOS nodes on the local segment. Information should be displayed in the same format as Top NetBIOS Senders.

o. NetWare:

- 1) Server List - Shall display a list of servers available from a specific network location, including symbolic name, IPX network address, and response time, with choice of NetWare encapsulation.
- 2) NetWare Ping - The target station address symbolic name should be selectable from a station list or entered in hexadecimal. The resulting IPX address, MAC address, number of responses, and response time should be displayed.
- 3) File Statistics - Shall monitor file requests and other key NetWare frames and statistics, including identification of the stations sending the most traffic in each category.
- 4) Packet Statistics - Shall monitor delay packets, routed traffic, and burst mode traffic, including identification of the stations sending the most traffic in each category.
- 5) Routing Analysis - Shall display local-to-local, local-to-remote, and remote-to-remote traffic, including identification of the stations sending the most traffic in each category.
- 6) Top IPX Senders - Shall monitor the busiest transmitting IPX nodes on the local segment, including the capability to monitor the top senders to a particular station. Station address display must allow alternating between symbolic name, MAC address, or IPX network number via a single keystroke.
- 7) Top IPX Receivers - Shall monitor the busiest receiving nodes on the local segment.

p. Hardware Tests:

- 1) Passthru Autotest - Shall allow analyzer to be connected in series between a station and hub to isolate failures to cable, hub, NIC, or station software.
- 2) NIC Autotest - Shall test Network Interface Card (NIC) and shall report MAC address, protocol, and driver voltage levels (and the presence and polarity of link pulses on 10BASE-T), including automatically scanning

for connector and cable faults if no signal is detected from the NIC, without requiring a live network connection.

- 3) Hub Autotest - Shall test for the presence and polarity of link pulses and for hub transmit levels, including identifying detected protocols and pinging IP and IPX hosts to ensure connectivity. Cable tests should be performed when a cable fault is suspected.

q. Cable Tests:

- 1) Cable Scan - Shall measure the length of the cable, distance to the largest fault, and the characteristic impedance of the cable. When testing UTP cabling, split pairs, opens, shorts, and other discontinuities must be found without a termination device. By using included wire map adapter at the far end, the analyzer should be able to detect wiring problems and smaller impedance discontinuities such as split pairs at the far end. When testing coax cabling, the analyzer must be able to perform this test on a live network.
- 2) Wire Map - Shall check for miswires and for intermediate opens and shorts on twisted-pair cable, including the display of a pin-by-pin connection list.
- 3) Cable Identifier - Capability to map UTP cables using up to 13 Cable Identifier Remote Units (one included and 12 optional).
- 4) Cable Autotest - Shall test length, impedance, wire map, attenuation, and NEXT (up to 100MHz using optional 100MHz remote adapter). Using the optional 100MHz remote adapter on 100ohm UTP, the results must comply with EIA 568A, TSB-67 requirements for Level I test of Basic Link or Channel configurations. Tests results shall be capable of being viewed directly or stored for printing later.
- 5) DC Continuity - Shall verify that there are no missing or incorrect terminators.
- 6) Find NVP - Shall calculate the Nominal Velocity of Propagation (NVP) for a cable of known length and shall optionally store the value in a user-defined cable type or standard cable type.

r. TDR Specifications:

- 1) Resolution: 1 ft.

- 2) Minimum Distance: 0 ft. (shall measure right up to connection point)
- 3) Maximum Distance:
 - a) BNC (Thicknet): 2,000 ft.
 - b) BNC (Thinnet): 1,000 ft.
 - c) UTP: 1,000 ft.

s. Measurement Accuracy:

- 1) DC Resistance (BNC Connector): 0 ohms to 200 ohms
- 2) Accuracy: $\pm 10\%$
- 3) Cable Length:
 - a) 0 to 100 ft.: $\pm (1\% \text{ of reading} + 1 \text{ ft.})$
 - b) 100 to 1,000 ft.: $\pm 2\% \text{ of reading}$

Item 2: LAN Switch-capable Software Upgrade, Fluke Enterprise LANMeter SwitchWizard Option or acceptable alternate, with the following specifications:

- a. Shall utilizes SNMP with standards-based MIB I/II and RMON that shall allow testing of LAN Switches.
- b. Multiport Statistics - Shall allow simultaneous display of information on up to eight switch ports, while monitoring the other ports in the background, for 10BASE-T, Serial Links, Fast Ethernet, and FDDI.
- c. Statistics Detail - Shall provide additional broadcast and error information on any specific port.
- d. Interface Errors - Shall view error types for 10Mbps Ethernet, Fast Ethernet, and FDDI interfaces.
- e. Port Detail - Shall identify the MAC addresses attached to each switch port.

Item 3: Category 5 Cable Tester, Fluke DSP-100/SR or acceptable alternate, with the following specifications:

- a. UL-verified TIA TSB-67 Level II Accuracy for both the Channel and the Basic Link using standard patchcords without adapters.
- b. Shall complete testing of 4-pair Category 5 UTP cable, with over 1,000 frequency points for NEXT between 100KHz and 105MHz from both ends of the cable, in less than 20 seconds.

- c. Shall measure Attenuation, Near-End Crosstalk (NEXT), NEXT at remote, Attenuation-to-Crosstalk Ratio (ACR), and ACR at remote up to 155MHz.
- d. Shall store up to 500 test results, each identified with a user-defined label.
- e. Computer software shall allow uploading of up to 500 test results to a PC in less than 3 minutes, along with providing an easy-to-use interface to download test parameters or software to the tester.
- f. Flash EPROM for software updates.
- g. Rugged and durable for extended field use.
- h. Remaining Battery Life Gauge for the tester and the capability to test the remaining battery life for the remote from the tester.
- i. User-adjustable Automatic Power Management.
- j. Battery back-up for internal memory so test results are not lost if main battery runs out.
- k. RJ-45 (shielded) and BNC connectors.
- l. DB-9 Connector for Serial Input/Output (DTE Male) with port speeds up to 38,400 bps and selectable hardware or Xon/Xoff flow control.
- m. Input Protection against continuous telco voltages and 100mA overcurrent.
- n. Auto-detection of remote at the other end of the link under test. If a remote is detected, the tester should command the remote unit to test NEXT from the far end.
- o. Test Standards:
 - 1) TIA Cat 3, 4, and 5, Basic Link or Channel, ANSI TP-PMD
 - 2) ISO Class A, B, C, or D
 - 3) IEEE 10BASE5, 10BASE2, or 10BASE-T
 - 4) IEEE 100BASE-TX; 100BASE-T4
 - 5) IEEE 802.12 (100VG-AnyLAN), 4-UTP and 2-STP

p. Autotest:

- 1) Tester should automatically execute the series of tests required by the selected testing standard.

q. Single Tests:

- 1) Wire Map (with included remote)
- 2) NEXT (with included remote)
 - a) Frequency Range: 100kHz to 105MHz in 100kHz steps
 - b) Resolution: 0.1 dB
- 3) NEXT @ Remote (with included remote or a second identical cable tester)
- 4) Length - Link length or distance to a fault with no dead zone.
- 5) Impedance
- 6) Attenuation (with included remote)
 - a) Frequency Range: 100kHz to 105MHz in 100kHz steps
 - b) Measurement Accuracy: Better than ± 1 dB over a range of 0 to 25 dB from 1MHz to 100MHz (typically better than ± 0.3 dB at 30 dB of attenuation from 1MHz to 100MHz)
- 7) DC Loop Resistance (with included remote) - Range from 0 to 400 ohms at $\pm(0.5 \text{ ohms} + 1\% \text{ of reading})$
- 8) Time Domain Reflectometry
- 9) Time Domain Crosstalk Analysis - To pinpoint the location of crosstalk faults.

r. Other Tests:

- 1) Two-way NEXT measurement using included remote or a second identical cable tester functioning as a remote.
- 2) Attenuation to Crosstalk Ratio (ACR) - ACR should be calculated from NEXT and Attenuation measurements at each frequency point (100kHz step size) across the spectrum of interest. The worst case error is the sum of the NEXT and Attenuation measurement error: ± 2.5 dB in the region around the specified link limits for Cat 5 or Class D.

- 3) Return Loss - Shall measure the fluctuation in input impedance over the frequency range of interest, with a range from 0 to 30 dB with an accuracy of ± 3 dB over the ranges specified by ISO Class D.
- 4) Impulse Noise Detection - Shall identify noisy cables caused by external sources (such as fluorescent lights or radio interference), with the threshold programmable from 100mV to 500mV in 10mV steps.
- 5) Delay Skew Test - Shall measure the difference in signal propagation from one pair to another in a four-pair cable link.
- 6) Optical power loss at both 850 nm and 1300 nm wavelengths (with optional Fiber Optic Test Kit).

Item 4: Fiber Optic Test Kit Option for Category 5 Cable Tester, Fluke DSP-FTK or acceptable alternate, with the following specifications:

- a. Fiber optic light source for both 850 nm and 1300 nm wavelengths.
- b. Fiber optic power meter for 850 nm, 1300 nm, and 1500 nm.
- c. Measurement of optical energy in dBm or W or the optical energy loss is dB.

Item 5: Handheld Ethernet Installation & Troubleshooting Tool, Fluke OneTouch 10/100 or acceptable alternate, each with the following specifications:

- a. Lightweight, portable, and rugged for extended field use.
- b. Rechargeable NiMH battery with 2-hour battery life.
- c. Hub/NIC connector (RJ-45) and Wiremap connector (RJ-45).
- d. RS-232C PC/Printer port (DB-9).
- e. Compatible with HP LaserJet printers.
- f. Flash EPROM for software upgrades.
- g. Built-in toner.

- h. User-friendly interface for inexperienced users, including a help system with advice on acceptable thresholds to aid in problem determination.
- i. Case, AC adapter/battery charger, ONE (1) remote wiremap unit, and user manual.
- j. Diagnostic Tests:
 - 1) Top Senders
 - 2) Top Protocols
 - 3) Utilization Rate
 - 4) Collision Rate
 - 5) Errors - Including Bad FCS, Short Frames, Late Collisions, and Jabber.
- k. Cable Tests:
 - 1) Length (with zero dead zone)
 - 2) Wiremap
 - 3) Split Pairs
 - 4) Length to Hub
- l. Patchcable Testing using built-in ports.
- m. Capability to detect NICs in far-end workstations even if the workstation is not powered on.
- n. NIC Autotest - Shall isolate adapter card hardware and driver problems by proving that a card can successfully transmit and receive frames.
- o. Hub Autotest - Shall verify correct operation of the hub by checking link pulse, signal level, and the hub's ability to send and receive frames.

Item 6: One-Year Extended Warranty for Item 1

One-year extended warranty shall cover hardware and software, but shall not include software upgrades. All parts, labor, and return freight costs shall be included.

Item 7: One-Year Full Service Agreement for Item 3

Shall include extended warranty and scheduled calibration. One-year extended warranty shall cover hardware and software, but shall not include software upgrades. All parts, labor, and return freight costs shall be included.

Item 8: One-Year Full Service Agreement for Item 5

Shall include extended warranty and scheduled calibration. One-year extended warranty shall cover hardware and software, but shall not include software upgrades. All parts, labor, and return freight costs shall be included.

All questions pertaining to the Technical Specifications shall be directed to Mr. Steven Goto, telephone (808) 956-5455, FAX (808) 956-5150.

Bidders are cautioned to review the Technical Specifications carefully and thoroughly. Objections to or requests for clarification of the specifications shall be made in writing in accordance with the General Provisions to the Office of Procurement, Property and Risk Management prior to the submittal of a bid. The submittal of a bid shall be considered as acceptance of the specifications as published.

SPECIAL PROVISIONS

1. SCOPE

The Furnishing and Delivery of Network and Cable Testing Equipment on a Requirements Basis for Information Technology Services, University of Hawaii, Honolulu, Hawaii shall be in accordance with the terms and conditions of IFB No. 97-107 and the General Provisions dated February 23, 1996, included by reference. Copies of the General Provisions are available at the Office of Procurement, Property and Risk Management, University of Hawaii, 1400 Lower Campus Road, Room 15, Honolulu, Hawaii 96822 or the General Provisions may be viewed at: <http://www.state.hi.us/bids/notice03.htm>

2. TECHNICAL REPRESENTATIVE OF THE PROCUREMENT OFFICER (TRPO)

The Technical Representative of the Procurement Officer is Mr. Steven Goto, telephone (808) 956-5455, FAX (808) 956-5150.

3. SUBMITTAL OF TECHNICAL DATA

With their bids, bidders shall submit, in duplicate, manufacturer's literature or brochures with technical data and illustrations of the equipment being offered. Bidders offering item(s) as specified are not required to submit literature, brochures, etc.

4. BRAND NAME OR EQUAL

The brand name and model number(s) mentioned are used in this specification as a measure of quality and performance. Any brand or manufacture of equal or better quality and performance than that specified will be considered for acceptance by the University. However, the University reserves the right to reject and deny any substitution that it may, in its discretion, deem unequal, and the findings in this regard shall be accepted by the bidder as final and binding.

5. MANUALS AND INSTRUCTIONS

The Contractor shall provide the University with operating and maintenance manuals for each piece of equipment furnished under this contract.

6. DELIVERY, MAINTENANCE, SUPPORT AND SERVICES

Prior to delivery, the Contractor shall contact the requesting Department or Requisitioner to confirm each order and coordinate delivery of products ordered.

All items purchased through this contract must be delivered to the University within FOURTEEN (14) calendar days upon receipt of the purchase order by the Contractor. Deliveries shall be made directly to the address stated on the University purchase order.

Contractor will be responsible for responding to informational inquiries related to the products in the contract.

Contractor must provide technical support in situations when the University encounters problems with the installation of the products.

7. TERM OF CONTRACT

The Contractor shall enter into a contract with the University for an initial period of ONE (1) year commencing on the date designated in the Notice to Proceed, and the unit price(s) bid shall remain firm for the initial term of the contract. Thereafter, the contract shall be renewable from year to year, for a total of FIVE (5) years, without the necessity of rebidding, upon mutual agreement in writing, NINETY (90) days prior to the annual renewal date. The contract price for each renewal period shall remain the same or lower than the initial bid price or may be adjusted in accordance with SPECIAL PROVISION 8, ESCALATION CLAUSE, of the contract, upon written request of the Contractor. Further, the University may terminate the contract at any time, after the first year, upon NINETY (90) days' prior written notice.

8. ESCALATION CLAUSE

The Contractor shall be allowed to request adjustments to the contract price for each contract renewal period, NINETY (90) days prior to contract renewal date, provided that the contract price for each renewal period shall not increase more than 5% (or) more than the Consumer Price Index for Pacific Cities and U. S. City Average based on All Urban Consumers, U. S. City Average, in effect ONE HUNDRED TWENTY (120) days prior to the renewal date, whichever is less, and provided, further, that the request is made in writing to the University.

9. PERSONNEL

The Contractor's authorized personnel shall be required to contact the Technical Representative whenever performance of required services cannot be delivered or provided in accordance with the terms and conditions specified.

Contractor agrees that all work shall be performed by and under the supervision of skilled, experienced and certified personnel directly employed and supervised by the Contractor. Any and all employees performing work under this contract shall be satisfactory to the University.

The University reserves the right to reject any personnel that the University deems incompetent, uncooperative, negligent, insubordinate, or otherwise objectionable.

10. SUBCONTRACTING PROHIBITION

The Contractor shall not at any time subcontract, convey, transfer, or assign said services to be performed under the contract, either in whole or in part, without prior written consent of the University.

11. PAYMENT

The Contractor shall be remunerated after acceptable performance of each purchase order submitted and processed. The Contractor shall provide an original and TWO (2) copies of a properly executed invoice for the work performed to the requesting party shown on each purchase order. All invoices submitted shall cite the contract number, the purchase order number, and a detailed itemization of the products delivered, Department and/or name of the Requisitioner and the quantity delivered.

12. OFFICE LOCATION

Contractor shall have a permanent office location from which the bidder conducts its business and where it can be reached by telephone on matters which require immediate attention.

13. WARRANTY

The equipment furnished shall be new and as specified. The Contractor shall warrant that all workmanship and materials of equipment furnished under this contract shall be guaranteed for a period of ONE (1) year from the date of acceptance. The Contractor shall replace and/or repair any defective workmanship and/or materials at no cost to the University during the period of warranty, provided such defects are not due to abuse or negligence on the part of the University.

14. REQUIREMENTS

This is a requirements contract for the equipment specified in the Bid Form and for the period set forth herein. Delivery shall be made only as authorized by purchase orders issued in accordance with the clause entitled "Ordering."

The quantities shown in the Bid Form are for bid purposes only and should not be considered firm. In the event that the University's requirements for the equipment do not materialize in the estimated quantities, such event shall not constitute the basis for an equitable price adjustment under this contract. The University reserves the right to order additional quantities or

decrease the quantities of each item at the unit prices quoted during the term of the contract.

15. ORDERING

Orders shall be placed by the issuance of purchase orders by authorized individuals of the various departments of the University of Hawaii. Purchase orders may be issued under this contract from the date designated in the Notice to Proceed for a ONE (1)-year period.

All purchase orders issued hereunder shall reference the contract number and shall be subject to the terms and conditions of this contract. This contract shall control in the event of conflict with any purchase order.

When mailed, a purchase order shall be "issued" for purposes of this contract at the time the University deposits the purchase order in the mail.

Purchase orders, when issued, shall specify the following:

- a. Type and number of units.
- b. Delivery location(s).

If additional features to, or new models of, the testing equipment, which perform a similar function become available during the period of this contract, the University shall be able to order the updated features or new models. The contract shall be modified by establishing the new prices through the issuance of a supplemental agreement to the contract.

16. TAX CLEARANCE FOR CONTRACTS

In accordance with Section 103-53, HRS, bidders shall submit with their bid packages, original tax clearances from the State of Hawaii Department of Taxation and the Internal Revenue Service. In the event bidders are unable to obtain a tax clearance by mail in time to include it with their bid packages, bidders may submit a completed OPPRM Form 128, CERTIFICATION FOR TAX CLEARANCE, in place of the DOTAX Form A-6, with their bid packages. However, an original tax clearance must be provided before contract award. Tax clearances obtained shall certify that all tax returns due have been filed, and all taxes, interest, and penalties levied or accrued under the provisions of Title 14 that are administered by the State of Hawaii Department of Taxation and under the Internal Revenue Code against the bidder, have been paid. This shall apply to all contracts, whether with Hawaii bidders, out-of-state bidders, or nonprofit organizations.

This shall not apply to bidders if the State of Hawaii Department of Taxation certifies that the bidder is in good standing under a plan in which delinquent taxes are being paid to the State of Hawaii Department of Taxation (and the Internal Revenue Service, if applicable) in installments.

Offers that are not accompanied by original tax clearances or OPPRM Form 128, CERTIFICATION FOR TAX CLEARANCE, may be considered as non-responsive and may be rejected.

Any questions pertaining to tax clearances may be addressed to the following:

- a. Internal Revenue Service, Compliance Division - LTC
300 Ala Moana Boulevard, #50089
Honolulu, Hawaii 96850-4922
Telephone No.: (808) 541-1160
- b. Department of Taxation
State of Hawaii
Oahu District Office
P.O. Box 259
Honolulu, Hawaii 96808-0259
Telephone No.: (808) 587-4242
Toll-Free: 1-800-222-3229